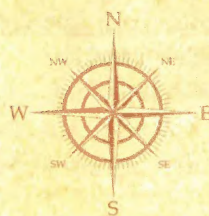


SCAVENGER HUNT



NETWORKS contains a wealth of information. The trick is to know where to look to access all the information in the book. If you complete this scavenger hunt exercise with your teachers or parents, you will see how the textbook is organized and how to get the most out of your reading and study time. Let's get started!

1 How many chapters and how many lessons are in this book?

2 Where do you find the glossary and the index? What is the difference between them?

3 Where can you find primary sources in the textbook?

4 If you want to quickly find all the maps, charts, and graphs about World War II, where do you look?

5 How can you find information about Constantine the Great?

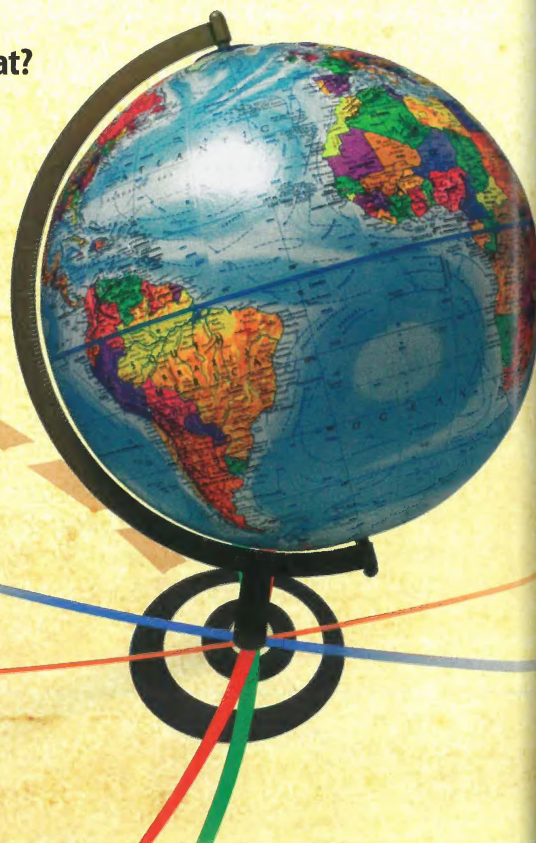
6 Where can you find a graphic organizer that lists the causes of the French Revolution discussed in Chapter 22?

7 Where and how do you find the content vocabulary for Chapter 20, Lesson 3?

8 What are the online resources listed for Chapter 14, Lesson 2?

9 You want to read about the age of exploration. How will you find it?

10 What time period does Chapter 3 cover? How do you know?



The Rise of Civilization

Prehistory – c. 2300 B.C.

ESSENTIAL QUESTIONS

- What do archaeology and anthropology teach us about prehistoric humans?
- What is a civilization, and how does one form?



networks

There's More Online! about the rise of civilization.

CHAPTER 1

Lesson 1

Early Humans

Lesson 2

The Neolithic Revolution

Lesson 3

Mesopotamia

The Story Matters...

By 3000 B.C., the Sumerians had built cities and developed one of the world's first civilizations in an area known as Mesopotamia. Religion, one of the key elements of a civilization, was very important to the Sumerians. They believed that the gods ruled their cities and all aspects of their lives. Each Sumerian city had a great temple, known as a ziggurat, dedicated to the local god. There they left offerings, including carved figurines and statues such as this one. The figures were usually depicted in a pose of worship, with folded hands and wide eyes, symbolizing that they are eternally offering prayers to the gods.

◀ This Sumerian statue of a worshipping woman was created around 2450 B.C. It was carved from a type of mineral called alabaster and is from the city of Ur, one of the oldest known cities in Mesopotamia.

PHOTO: Scala/Art Resource, NY

Place and Time: The World: PREHISTORY—c. 2300 B.C.

The earliest hominids, humanlike creatures that walked upright, appeared in Africa at least 4 million years ago. Homo sapiens developed there around 200,000 years ago, later migrating to Europe and Asia. Throughout the Paleolithic Age (from approximately 2,500,000 B.C. to 10,000 B.C.), early humans were primarily nomadic hunters using stone tools. Following the end of the last major Ice Age, human beings began to live in permanent settlements, to practice systematic agriculture, and to domesticate animals, paving the way for the first civilizations. Mesopotamia, a fertile land between the Tigris and Euphrates Rivers in what is today southern Iraq, is one of the areas where civilization first developed.

Step Into the Place

Read the quotes and look at the information presented on the map.

DBQ Analyzing Historical Documents What are some of the early human behaviors that mark important stages in the development toward civilization?

PRIMARY SOURCE

“[Neanderthals] buried their dead—the first [early] humans known to have done so, and surely a significant event, though it tells us nothing for certain about the meaning that death may have had in Neanderthal culture, or the role of remembrance or respect. Some objects found associated with burials have been interpreted as grave goods, but no pattern of deliberate placing can be shown as yet, or any other clue to the possibility of ceremonies. Some skeletons show the marks of obvious injuries or illnesses suffered sometime before death, evidence that there must have been social care to support ailing or disabled individuals.”

—Peter Andrews and Christopher Stringer, from *The Book of Life*, 2001

PRIMARY SOURCE

“Art did not have a linear evolution from clumsy and crude beginnings. . . . In the course of the Upper Paleolithic [period of cave art], there were doubtless numerous beginnings, pinnacles, and declines. But from the start there were very great artists and accomplished productions in certain regions, without the situation necessarily being the same everywhere at the same time. Our view of the beginnings of artistic creation and even of the psyche of these first modern humans has been changed by this [discovery of the Chauvet Cave].”

—Jean Clottes, from *The Dawn of Art: The Chauvet Cave*, 1996



PHOTO: (left) French Ministry of Culture and Communication, Regional Direction for Cultural Affairs - Rhone-Alpes region - Regional department of archaeology; (right) The Natural History Museum / The Image Works

networks

There's More Online!

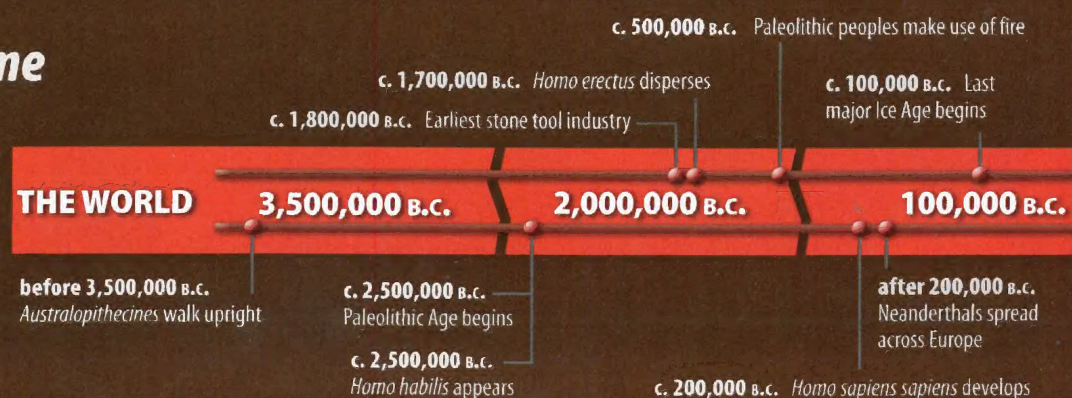
- MAP Explore the interactive version of this map on Networks.
- TIME LINE Explore the interactive version of the time line on Networks.



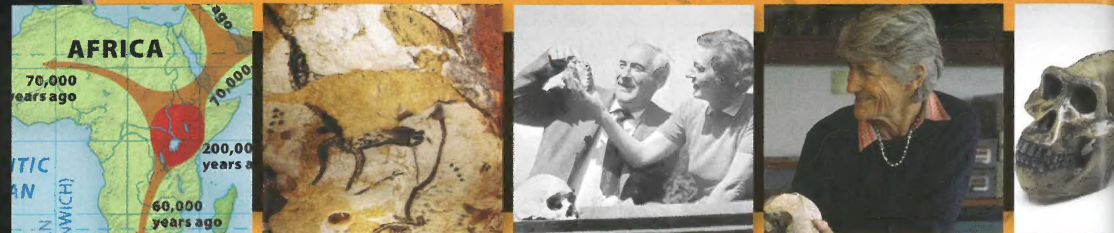
Step Into the Time

Synthesizing Information

Choose an invention or development from the time line and explain its role in the human experience.



- ✓ BIOGRAPHY Louis and Mary Leakey
- ✓ BIOGRAPHY Lucy the Australopithecus
- ✓ GRAPHIC ORGANIZER Characteristics of the Paleolithic Age
- ✓ IMAGE Cave Painting at Lascaux
- ✓ INTERACTIVE SELF-CHECK QUIZ
- ✓ MAP Migration of Early Humans
- ✓ SLIDE SHOW Art and Artifacts of Early Humans
- ✓ VIDEO Early Humans



LESSON 1

Early Humans

ESSENTIAL QUESTION

What do archaeology and anthropology teach us about prehistoric humans?

IT MATTERS BECAUSE

Through studying and dating artifacts and fossils, anthropologists and archaeologists have revealed prehistory. This incomplete record shows how the earliest humans developed and how they adapted to make tools, use fire, and survive Ice Age conditions. Early humans also produced art that relates the human experience.

Prehistory

GUIDING QUESTION How do we define and learn information about prehistory?

Historians rely mostly on documents, or written records, to create their pictures of the past. However, no written records exist for the prehistory of humankind. In fact, *prehistory* means “the time before writing was developed.” The story of prehistoric humans depends on archaeological and, more recently, biological evidence. Archaeologists and anthropologists use this information to create **theories** about our early past.

Archaeology and Anthropology

Archaeology is the study of past societies through analysis of what people left behind. Archaeologists dig up and examine artifacts—objects made by humans. Artifacts may be tools, weapons, art, and even buildings made by early humans.

Anthropology is the study of human life and culture. Culture includes what people wear, how they organize their society, and what they value. Anthropologists use artifacts and human fossils to create a picture of people’s everyday lives. Fossils are rocklike remains of biological organisms such as a leaf imprint or a skeleton.

Archaeologists and anthropologists have developed scientific methods to carry out their work. They excavate sites, or carefully dig up land, at places around the globe to uncover fossil remains of early humans, ancient cities, burial grounds, and other objects. The examination and analysis of these remains give archaeologists a

better understanding of ancient societies. By examining artifacts such as pottery, tools, and weapons, for example, these scientists learn about the social and military structures of a society. By analyzing bones, skins, and plant seeds, they are able to piece together the diets and activities of early people. One of the most difficult jobs is dating these finds.

Dating Artifacts and Fossils

Dating human fossils and artifacts helps scientists understand when and where the first humans lived. One method used to determine age is radiocarbon dating. All living things absorb a small amount of radioactive carbon, or C-14, from the atmosphere. After a living thing dies, it slowly loses C-14. By measuring the amount left in an object, a scientist can figure its age. This method is accurate for objects no more than about 50,000 years old. For objects dating back to 200,000 years ago, scientists can make relatively precise measurements using thermoluminescence. This measures the light given off by electrons trapped in the soil surrounding fossils and artifacts.

Microscopic and biological analyses of organic remains—such as blood, hairs, and plant tissues left on tools and weapons—give scientists still more information. Such analyses have shown that blood molecules may survive millions of years. This recent scientific discovery is especially useful in telling us more about humans, their use of tools, and the animals they killed. Ancient deoxyribonucleic acid (DNA) is providing new information on human evolution. The analysis of plant remains on stone tools yields evidence of the history of farming. All of these techniques give us insight into the lives of early peoples.

READING PROGRESS CHECK

Explaining What have artifacts and fossils revealed about prehistory?

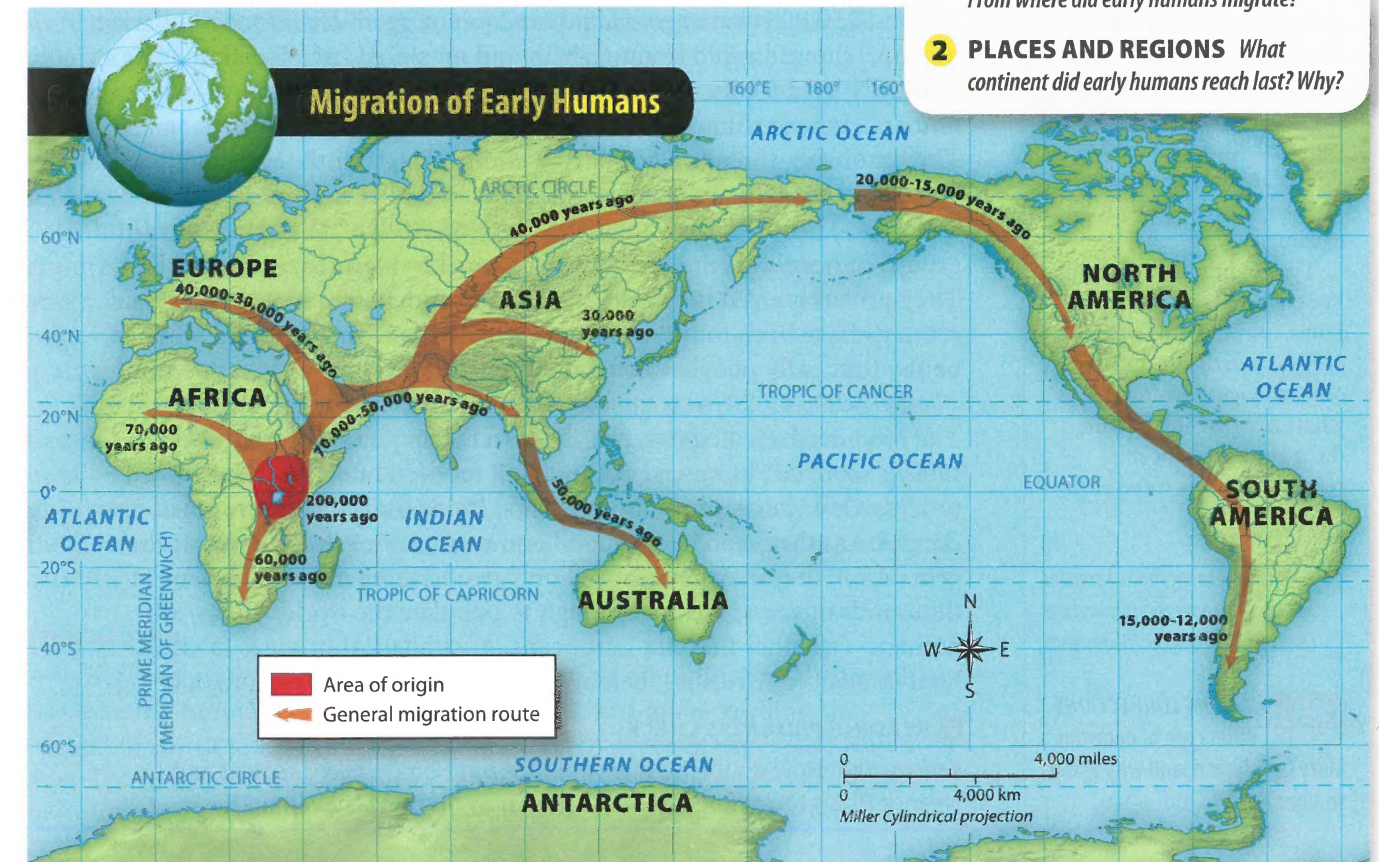
Chocolate at Chaco Canyon

Located in what is now New Mexico, Chaco Canyon was the center of an ancestral Puebloan culture that flourished between A.D. 850 and 1250. In the 1970s, using traditional digging methods, archaeologists surveyed nearly 1,800 sites and collected more than 100,000 artifacts at Chaco Canyon. Recently, new scientific testing techniques have allowed archaeologists to learn more about how these artifacts were used. In 2008, using chemical analysis, scientists discovered cacao, or chocolate, residue in broken pieces of pottery. This is the earliest evidence of chocolate beverages in the American Southwest.

GEOGRAPHY CONNECTION

This map shows the “out-of-Africa” theory.

- 1 **THE WORLD IN SPATIAL TERMS** From where did early humans migrate?
- 2 **PLACES AND REGIONS** What continent did early humans reach last? Why?



Reading HELPDESK



Academic Vocabulary

- theory
- survive

Content Vocabulary

- archaeology
- anthropology
- hominid
- *Homo sapiens sapiens*
- “out-of-Africa” theory

TAKING NOTES:

Key Ideas and Details

Classifying Use a graphic organizer like the one below to list key facts about early humans.

| Group | Qualities/Advances | Time Period |
|-----------------------------|--------------------|-------------|
| Earliest Hominids | | |
| <i>Homo sapiens</i> | | |
| <i>Homo sapiens sapiens</i> | | |

PHOTO: Sisse Brimberg/National Geographic/Getty Images, Tophan/The Image Works, © Kenneth Garrett/National Geographic Stock, © Photolibrary RF Collection / SuperStock

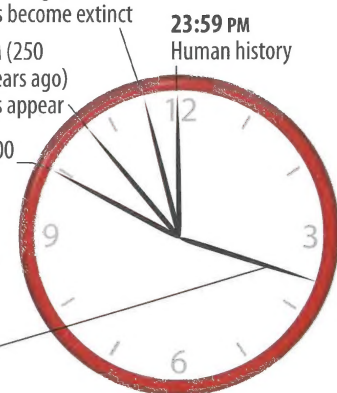
Age of Dinosaurs

After 23:40 PM (65 million years ago) Dinosaurs become extinct

22:42 PM (250 million years ago) Dinosaurs appear

21:55 PM (400 million years ago) Oldest fossils of animals with backbones

3:39 AM (3 billion years ago) Oldest known rocks



▲ If the approximately 4.6 billion years of Earth's history were squeezed into a single 24-hour day, each hour would last more than 190 million years. Each minute would last more than 3 million years; each second more than 50,000 years.

Analyzing PRIMARY SOURCES

Discovery at Olduvai Gorge

“[Mary] noticed a scrap of bone that . . . ‘seemed to be part of a skull. . . . It had a hominid look. . . .’ Mary then saw two large teeth set in the curve of a jaw, and her doubts vanished. ‘It was a hominid skull . . . and there was a lot of it.’ She . . . drove madly back to camp.

‘I’ve got him! I’ve got him! I’ve got him!’ she cried to Louis. . . . But Louis was groggy with the flu and could only manage a confused ‘Got what? Are you hurt?’ ‘Him, the man! Our man,’ she replied. ‘The one we’ve been looking for.’”

—Richard Leakey, from *Ancestral Passions: The Leakey Family and the Quest for Humankind's Beginnings*

DBQ MAKING CONNECTIONS

What type of bone did Mary Leakey find, and why was it so significant?

Early Development

GUIDING QUESTION How did hominids develop?

In recent decades, modern science has produced a clearer picture of how early humans developed. Pieces of the puzzle are still missing, however. When a new skull or skeleton is unearthed, scientists may find that they have to revise their ideas about the lives of prehistoric humans.

Hominids to Homo Sapiens

What is a **hominid**? A hominid is a humanlike creature that walked upright. The earliest hominids lived in Africa 4 million years ago. Called *Australopithecus* (aw • stray • loh • PIH • thuh • kuhs), or “southern ape,” by its discoverer Donald Johanson, this hominid flourished in eastern and southern Africa.

Louis and Mary Leakey spent most of their lives searching for clues about early human life. Mary Leakey made a dramatic discovery of a skeleton at Olduvai Gorge in East Africa. Her discovery of a hominid in 1959 was the oldest at that time—about 1.8 million years old.

From 2.5 to 1.6 million years ago, a more advanced hominid developed with a somewhat larger brain. This hominid was named *Homo habilis*, meaning “handy human.” *Homo habilis* may have used stone tools. Another hominid, *Homo erectus*, “upright human,” emerged around 1.5 million years ago. Although other hominids walked on two legs, *Homo erectus* had arms and legs in modern human proportion. Remains in Asia show that *Homo erectus* was probably the first hominid to leave Africa.

Homo Sapiens Sapiens

Around 250,000 years ago, *Homo sapiens* emerged. *Homo sapiens*, “wise human,” showed rapid brain growth and mastered fire. The first anatomically modern humans, **Homo sapiens sapiens**, meaning “wise, wise human,” appeared in Africa between 200,000 and 150,000 years ago. They probably spread out of Africa to other parts of the world about 100,000 years ago, replacing populations of earlier hominids in Europe and Asia. This is referred to as the **“out-of-Africa” theory**. One of the groups of hominids they encountered was known as the Neanderthals. They probably lived between 200,000 B.C. and 30,000 B.C. Neanderthal remains have been found in Europe and Turkey. Neanderthals seem to be the first early people to bury their dead.

By 30,000 B.C., *Homo sapiens sapiens* had replaced the Neanderthals. The Neanderthals died out, possibly as a result of conflicts with *Homo sapiens sapiens*. The spread of these first modern humans was a slow process. Over many thousands of years, *Homo sapiens sapiens* spread over the globe as they searched for food and new hunting grounds. In a whole generation, they may have moved only two to three miles. Over tens of thousands of years, this was enough to populate the world. Today, all humans—whether they are Europeans, Australian Aborigines (a • buh • RIHJ • nees), or Africans—belong to the same subgroup of human beings.

READING PROGRESS CHECK

Contrasting How do the facts we know about *Homo sapiens sapiens* and Neanderthals tell different stories about how hominids developed?

The Paleolithic Age

GUIDING QUESTION How did the first humans adapt to survive?

One of the distinguishing features of the human species is the ability to make tools. The term *Paleolithic Age* is used to designate the early period of human history (approximately 2,500,000 B.C. to 10,000 B.C.) in which humans used simple stone tools. *Paleolithic* comes from Greek words meaning “old stone,” and the Paleolithic Age is sometimes called the Old Stone Age.

For hundreds of thousands of years, humans relied on hunting and gathering for their daily food. Paleolithic peoples had a close relationship with their environment. They came to know what animals to hunt and what plants to eat. They gathered wild nuts, berries, fruits, wild grains, and green plants. Around the world, they hunted and ate various animals, including buffalo, horses, bison, and reindeer. In coastal areas, fish and shellfish provided a rich source of food.

The Paleolithic Way of Life

Early humans were able to sustain themselves through the use of stone tools. To make such tools, early people used very hard stones such as flint. They used one stone to chip away parts of another, creating an edge. Hand axes of various kinds—pointed tools with one or more cutting edges—were the most common. Hand axes eventually were set in wooden handles, making them easier to use. By attaching wooden poles to spear points and hardening the tips in fire, humans created spears to kill large animals. Over the years, Paleolithic hunters developed better tools. The invention of the bow and arrow made hunting much easier. Harpoons and fishhooks made of bone increased the catch of fish.

Because Paleolithic people were hunters and gatherers, they had to follow animal migrations and vegetation cycles. Paleolithic humans were nomads—people who move from place to place to **survive**. Archaeologists and anthropologists think these nomads probably lived in small groups of 20 or 30. Hunting depended on careful observation of animal behavior patterns and demanded group cooperation for success.

The main job of Paleolithic peoples was finding enough to eat. Both men and women were responsible for finding the food needed for survival. Paleolithic parents passed on their practices, skills, and tools to their children to ensure the survival of later generations. Because women bore and raised children, they probably stayed closer to camp. They played an important role in acquiring food by gathering berries, nuts, roots, and grains. Women taught the children which foods were edible. They trapped small animals and kept the camp safe. In the constant search for food, men had to travel far from camp to hunt herds of large animals. Because both men and women were responsible for finding and acquiring the food needed to sustain life, many scientists believe there was equality between them. It is likely that both men and women made decisions that affected the activities of the Paleolithic group.

Use of Fire

Another important result of the migration of early hominids was the use of fire. As early hominids moved from the tropics into colder regions, they needed to adjust to new climate conditions. Archaeologists have discovered the piled remains of ashes in caves that prove that Paleolithic people used fire systematically as long as 500,000 years ago. At a site in northern China,

theory hypothesis or unproved assumption

archaeology the study of past societies through an analysis of the items people left behind

anthropology the study of human life and culture based on artifacts and human fossils

hominid humans and other humanlike creatures that walk upright

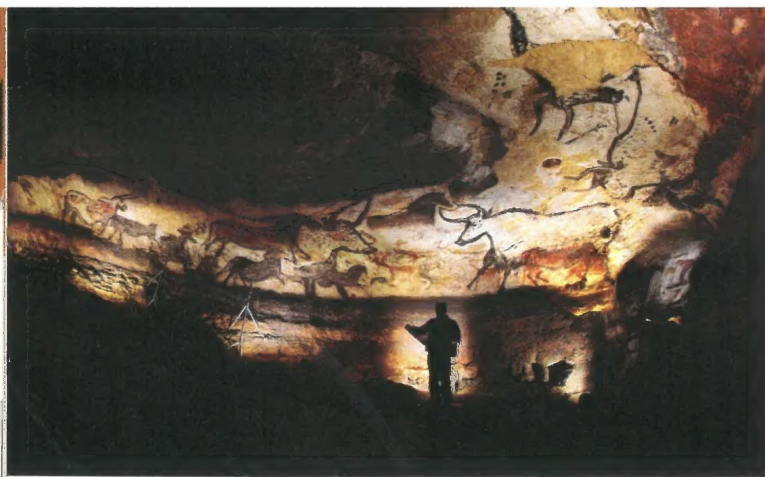
Homo sapiens sapiens

“wise, wise humans,” a species that appeared in Africa between 150,000 and 200,000 years ago; they were the first anatomically modern humans

“out-of-Africa” theory

also called the replacement theory; this theory refers to when *Homo sapiens sapiens* began spreading out of Africa to other parts of the world about 100,000 years ago and replacing populations of earlier hominids in Europe and Asia

survive to remain alive or in existence



▲ Around 35,000 years ago, Ice Age artists began to paint images in caves. The painting shown here was found in Lascaux Cave in southern France.

CRITICAL THINKING

Analyzing Visuals What does this cave painting depict?

remnants of hearths, ashes, charcoal, and charred bones have been dated to 400,000 years ago.

Fire not only gave warmth but kept wild animals away from the campsite. Armed with spears, hunters used fire to flush out wild pigs for the kill. People gathered around the fire to trade stories and to cook. Cooked food tasted better, lasted longer, and was easier to chew and digest, so it seems likely that nutrition improved.

The Ice Ages

Having fire to create a source of heat was especially important when Ice Age conditions descended on the Paleolithic world. The most recent Ice Age began about 100,000 B.C. and ended about 8000 B.C. During this time, sheets of thick ice covered large parts of Europe, Asia, and North America. As sea levels went down, people migrated across land bridges that had not existed before.

Ice Age conditions posed a serious threat to human life, so the ability to adapt was crucial to human survival. The use of fire, for example, reminds us that early humans sometimes adapted not by changing themselves to better fit their environment but by changing the environment.

Paleolithic Art

Paleolithic peoples did more than just survive. The cave paintings of large animals found at Lascaux (la • SKOH) in southern France and Altamira in northern Spain bear witness to the cultural activity of Paleolithic peoples. The Chauvet cave discovered in southern France in 1994 contained more than 300 paintings of lions, oxen, owls, panthers, and other animals. Most of these are animals that Paleolithic peoples did not hunt, which indicates that they were painted for religious or decorative purposes.

Using stone lamps filled with animal fat to light the caves, early artists painted with fingers and twigs and even blew paint through hollow reeds. They mixed mineral ores with animal fat to make red, yellow, and black paint. A variety of realistically painted animals covers the caves. Few humans appear in these paintings, and when they do appear, they are drawn as sticklike figures. This has led some scholars to think the work was done for a magical or religious ritual to bring success in hunting.

READING PROGRESS CHECK

Describing Describe how the Paleolithic way of life revolved around acquiring food.

LESSON 1 REVIEW



Reviewing Vocabulary

1. **Applying** Apply the “out-of-Africa” theory to explain the connection between early hominids such as Neanderthals and *Homo sapiens sapiens*.

Using Your Notes

2. **Gathering Information** Use your notes and other ideas from this lesson to describe early humans and their lives during the Paleolithic Age.

Answering the Guiding Questions

3. **Summarizing** How do we define and learn about prehistory?

4. **Sequencing** How did hominids develop?

5. **Identifying Cause and Effect** How did the first humans adapt to survive?

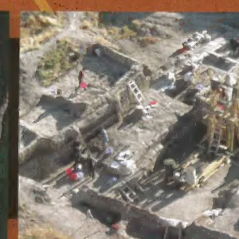
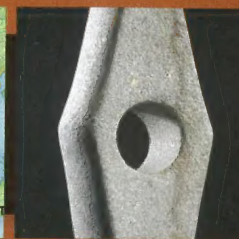
Writing Activity

6. **INFORMATIVE/EXPLANATORY** In one or more paragraphs, describe the work of archaeologists. Use precise nouns to name the subject of their work, where they perform their work, and the tools they use. Incorporate precise adjectives and adverbs to describe the processes or objects involved.

networks

There's More Online!

- ✓ CHART/GRAPH Culture and Civilization
- ✓ CHART/GRAPH Number of Farms in the U.S., 1940–2004
- ✓ IMAGE Bronze Age Tool
- ✓ IMAGE Çatalhüyük
- ✓ INTERACTIVE SELF-CHECK QUIZ
- ✓ MAP Spread of Systematic Agriculture
- ✓ SECONDARY SOURCE The Neolithic Revolution
- ✓ VIDEO The Neolithic Revolution



LESSON 2

The Neolithic Revolution

ESSENTIAL QUESTIONS

- What do archaeology and anthropology teach us about prehistoric humans?
- What is a civilization, and how does one form?

IT MATTERS BECAUSE

The development of systematic agriculture was a dramatic change, or revolution, during the Neolithic Age. The transition of humans from nomadic hunters to farmers and herders is part of the Neolithic Revolution. This revolution led to the development of traditional economies based on agriculture with limited trade.

Agricultural Revolution

GUIDING QUESTION How did developments in the Neolithic period impact early human history?

The end of the last Ice Age, around 8000 B.C., was followed by what is called the Neolithic Revolution—that is, the **revolution** that occurred in the Neolithic Age, the period of human history from around 8000 B.C. to 4000 B.C. The word *Neolithic* comes from Greek words meaning “new stone.” The name New Stone Age, however, is somewhat misleading. The real change in the Neolithic Revolution was the shift from the hunting of animals and the gathering of food to the keeping of animals and the growing of food on a regular basis—what we call **systematic agriculture**.

Early humans had to move from place to place, following herds and finding plants. During the Neolithic Age, humans began planting crops, providing a regular food source. Domestication of animals, adapting them for human use, added a reliable source of meat, milk, and wool. Animals could also be used to do work. Growing crops and taming food-producing animals caused an agricultural revolution. Because there was enough food, humans had more control over their lives. Sufficient food also meant they could give up their nomadic ways of life and begin to live in settled communities. Some historians believe this revolution was the single most important development in human history.

This shift to food producing from hunting and gathering was not as sudden as was once believed. During the Mesolithic Age (“Middle Stone Age,” about 10,000 B.C. to 7000 B.C.), there was a

Reading HELPDESK



Academic Vocabulary

- revolution
- role

Content Vocabulary

- systematic agriculture
- artisans • culture
- civilization • priests

TAKING NOTES:

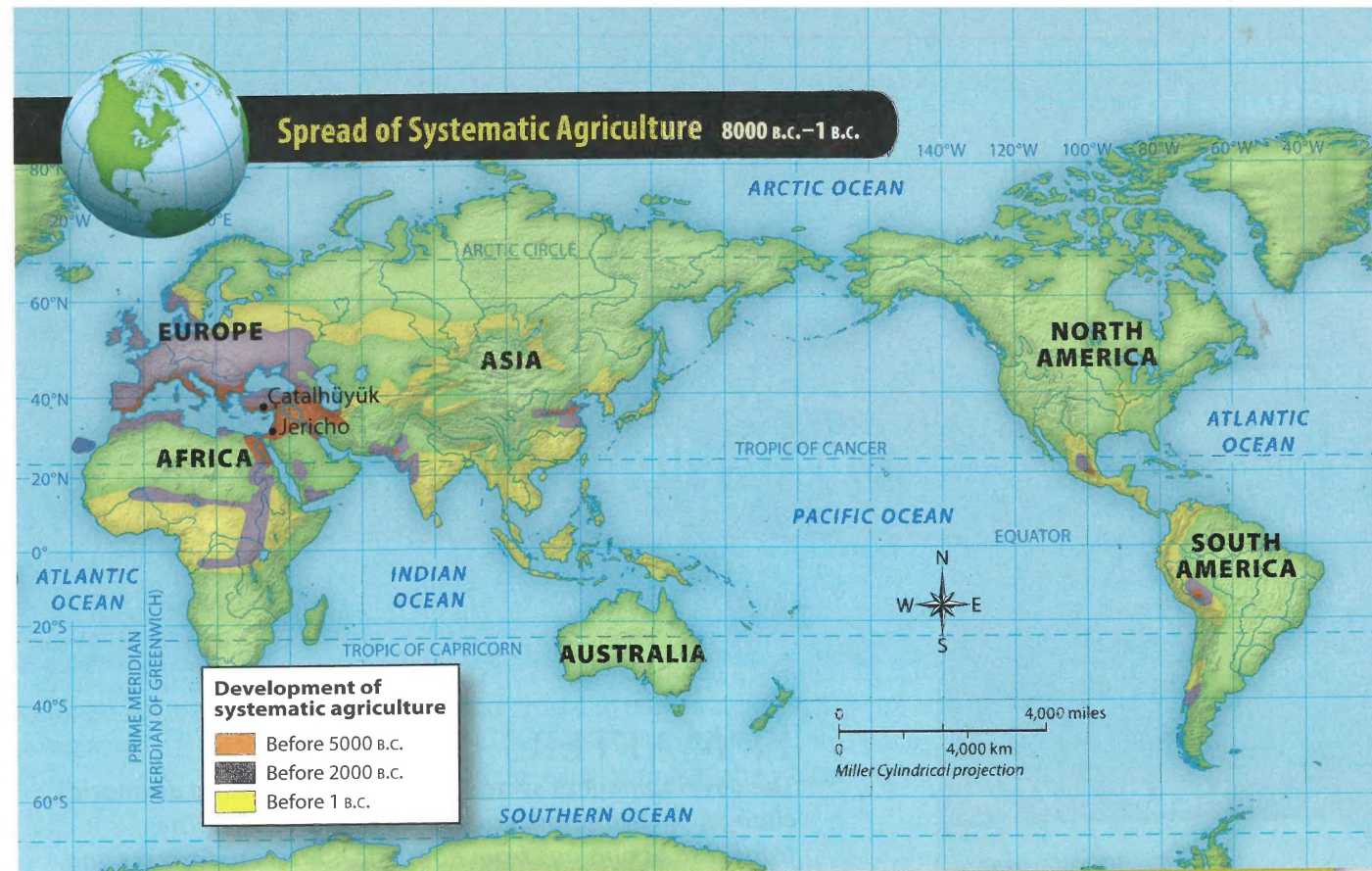
Key Ideas and Details

Identifying Use a graphic organizer like the one below to list major developments of the Neolithic Revolution.

| Neolithic Revolution: Major Developments |
|---|
| 1. |
| 2. |
| 3. |
| 4. |
| 5. |

PHOTO: Steve Gorton/Dorling Kindersley/Getty Images

PHOTO: (l to r) JSSPI/Getty Images, © SuperStock / SuperStock, © Yam Artus-Bertrand/CORBIS, Steve Gorton/Dorling Kindersley/Getty Images



GEOGRAPHY CONNECTION

The Neolithic Revolution was the beginning of systematic agriculture.

- 1 ENVIRONMENT AND SOCIETY** What patterns do you see with the spread of systematic agriculture?
- 2 THE WORLD IN SPATIAL TERMS** Where were the earliest farming villages located?

revolution a sudden, complete change

systematic agriculture the keeping of animals and the growing of food on a regular basis

gradual shift from the old food-gathering and hunting economy to a food-producing one. There was also a gradual taming of animals. Moreover, throughout the Neolithic period, hunting and gathering remained a way of life for many people.

Between 8000 B.C. and 5000 B.C., systematic agriculture developed in various parts of the world. In Southwest Asia, people began growing wheat and barley and domesticating pigs, cows, goats, and sheep by 8000 B.C. From there, farming spread into Southeastern Europe. By 4000 B.C., farming was well established in central Europe and the coastal regions of the Mediterranean Sea.

By 6000 B.C., the cultivation of wheat and barley had spread into the Nile Valley of Egypt. These crops soon spread up the Nile to other areas of Africa—Sudan and Ethiopia. In central Africa, a separate farming system emerged. There, people grew root crops called tubers, such as yams, and tree crops, such as bananas. Wheat and barley farming also moved eastward into India between 7000 B.C. and 5000 B.C.

By 5000 B.C., farmers in Southeast Asia were growing rice. From there, rice farming spread into southern China. By 6000 B.C., farming millet and domesticating dogs and pigs seem to have been established in northern China. In the Western Hemisphere, Mesoamericans—inhabitants of present-day Mexico and Central America—grew beans, squash, and maize. They also domesticated dogs and fowl in this period between 7000 B.C. and 5000 B.C.

Neolithic Farming Villages

Growing crops on a regular basis gave rise to more permanent settlements called Neolithic farming villages. These villages appeared in Europe, India, Egypt, China, and Mesoamerica. The oldest and biggest villages, however, were located in Southwest Asia. Jericho, near the Dead Sea, was in existence by 8000 B.C. Çatalhüyük (chah • tahl • hoo • YOOK) in modern Turkey was an even larger community, covering 32 acres (12.9 ha). Between 6700 B.C. and 5700 B.C., the city probably had 6,000 inhabitants. Their simple mud brick houses were built so close together that there were few streets. People walked on the roofs and entered their homes through holes in the rooftops.

Archaeologists have found a dozen products that were grown outside the city walls, including fruits, nuts, and wheat. Domesticated animals provided meat, milk, and hides. Scenes on the walls of the city's ruins show that the people also hunted. As a result of the steady food supply, Çatalhüyük had a food surplus. Specialization of labor began when not all villagers needed to farm. Some became **artisans**, or skilled workers, making goods to trade with neighboring people. These goods were bartered, or exchanged, not sold. This was the beginning of a traditional economy based on agriculture and some trade.

Besides homes, Çatalhüyük had special buildings that were shrines containing figures of gods and goddesses. Statues of women giving birth or nursing a child have also been found there. Both the shrines and the statues point to the growing **role** of religion in the lives of Neolithic peoples.

Effects of the Neolithic Revolution

The Neolithic agricultural revolution caused dramatic changes that affected how people would live to the present day. When people began settling in villages or towns, they saw the need to build walls for protection and storehouses for goods. Storing surplus products encouraged trade. Trading encouraged more people to learn crafts. This led to the division of labor.

As artisans became more skilled, they made more refined tools. Flint blades were used to make sickles and hoes for farming. Eventually, many of the food plants still in use today began to be cultivated. Some plants, such as flax and cotton, were used to make yarn and cloth.

The change to systematic agriculture also had consequences for how men and women related to one another. Men became more active in farming and herding animals, jobs that took them away from the settlement. Instead of the whole family moving as in earlier times, women remained behind. They cared for children, wove cloth for clothes, and did other tasks that kept them in one place. As men took on more and more responsibility for obtaining food and protecting the settlement, they began to play a more dominant role in society.

The End of the Neolithic Age

Between 4000 B.C. and 3000 B.C., new developments began to affect some Neolithic towns. Even before 4000 B.C., craftspeople discovered that by heating metal-bearing rocks they could turn the metal into liquid. The liquid metal could be poured into molds, or casts, to make tools and weapons. The use of metals marked a new level of control over the environment.



▲ Aerial view of the archaeological site at Çatalhüyük in modern-day Turkey

artisan a skilled worker who makes products such as weapons and jewelry

role a socially expected behavior pattern

Thinking Like a HISTORIAN

Interpreting Ancient Records

In interpreting a creation myth of the ancient Mesopotamians, historian Georges Roux observes, "To their deeply religious minds it offered a non-rational but nevertheless acceptable 'explanation' of the universe." What biases does Roux see expressed in this myth? What biases might Roux himself exhibit? In analyzing and evaluating the records of ancient cultures, historians must attempt to understand the biases they reflect as well as their own biases. Use the Internet or your school library to find an ancient text, such as the Code of Hammurabi or *The Epic of Gilgamesh*, and analyze and evaluate the cultural biases expressed in it.



▲ This socketed bronze hand axe was created around 1000 B.C.

► CRITICAL THINKING

Classifying Near the end of what age was this artifact created?

Copper was the first metal to be used in making tools. After 4000 B.C., artisans in western Asia discovered that combining copper and tin created bronze—a metal harder and more durable than copper.

The widespread use of bronze led to the Bronze Age from around 3000 B.C. to 1200 B.C. After about 1000 B.C., the use of iron tools and weapons became common in an era known as the Iron Age.

The Neolithic Age set the stage for major changes to come. As people mastered farming, some villages developed more complex and wealthier societies. To protect their wealth, they built armies and city walls. By the beginning of the Bronze Age, large numbers of people were concentrated in the river valleys of Mesopotamia, Egypt, India, and China. These farming villages led to the development of cities.

✓ READING PROGRESS CHECK

Locating Where and when did systematic agriculture develop?

Civilization Emerges

GUIDING QUESTION How would you define civilization?

Whether analyzing societies of the past or the present, anthropologists describe the **culture**—the way of life—of a people in a certain time and place. From earliest times, humans lived in small nomadic groups with simple cultures that helped them survive. When humans settled in permanent villages, their cultures became more complex. Gradually, more complex cultures developed into a new form of human society called civilization.

A **civilization** is a complex culture in which large numbers of human beings share a number of common elements. Historians have identified the basic characteristics of civilizations. Six of the most important characteristics are cities, government, religion, social structure, writing, and art.

The first civilizations developed in river valleys where people could carry on the large-scale farming that was needed to feed a large population. As food became abundant, more people would live in the city. New patterns of living soon emerged.

Growing numbers of people, the need to maintain the food supply, and the need for defense soon led to the growth of governments. Governments organize and regulate human activity. They also provide for smooth interaction between individuals and groups. In the first civilizations, governments usually were led by monarchs—kings or queens who rule a kingdom—who organized armies to protect their populations and made laws to regulate their subjects' lives.

culture the way of life a people follows

civilization a complex culture in which large numbers of people share a number of common elements such as social structure, religion, and art

Important religious developments also characterized the new urban civilizations. All of them developed religions to explain the forces of nature and their roles in the world. They believed that gods and goddesses were important to the community's success. To win their favor, **priests** supervised rituals aimed at pleasing them. This gave the priests special power and made them very important people. Rulers also claimed that their power was based on divine approval, and some rulers claimed to be divine.

A new social structure based on economic power also arose. Rulers and an upper class of priests, government officials, and warriors dominated society. Below this class was a large group of free people—farmers, artisans, and craftspeople. At the bottom was a slave class.

The demand of the upper class for luxury items, such as jewelry and pottery, encouraged artisans and craftspeople to create new products. As urban populations exported finished goods to neighboring populations in exchange for raw materials, organized trade began to grow. Because trade brought new civilizations into contact with one another, it often led to the transfer of new technology, such as metals for tools and new farming techniques, from one region to another.

By and large, however, the early river valley civilizations developed independently. Each one was based on developments connected to the agricultural revolution of the Neolithic Age and the cities that this revolution helped produce. Taken together, the civilizations of Mesopotamia, Egypt, India, and China constituted nothing less than a revolutionary stage in the growth of human society.

Writing was an important feature in the life of these new civilizations. Above all, rulers, priests, merchants, and artisans used writing to keep accurate records. Of course, not all civilizations depended on writing to keep records. The Inca in Peru, for example, relied on well-trained memory experts to keep track of their important matters. Eventually, the earliest civilizations used writing for creative expression as well as for record keeping. This produced the world's first works of literature.

Significant artistic activity was another feature of the new civilizations. Architects built temples and pyramids as places for worship or sacrifice or for the burial of kings and other important people. Painters and sculptors portrayed stories of nature. They also depicted the rulers and gods they worshiped.

✓ READING PROGRESS CHECK

Gathering Information How did large-scale agriculture lead to new patterns of living in river valley civilizations?

priests in early urban civilizations, important and powerful people who supervised rituals aimed at pleasing gods and goddesses

LESSON 2 REVIEW



Reviewing Vocabulary

1. **Explaining** Explain the relationship between *culture* and a *civilization*.

Using Your Notes

2. **Synthesizing** Use your notes and information in the lesson to explain how Çatalhöyük exemplifies major developments of the Neolithic Revolution.

Answering the Guiding Questions

3. **Identifying Cause and Effect** How did developments during the Neolithic period impact early human history?

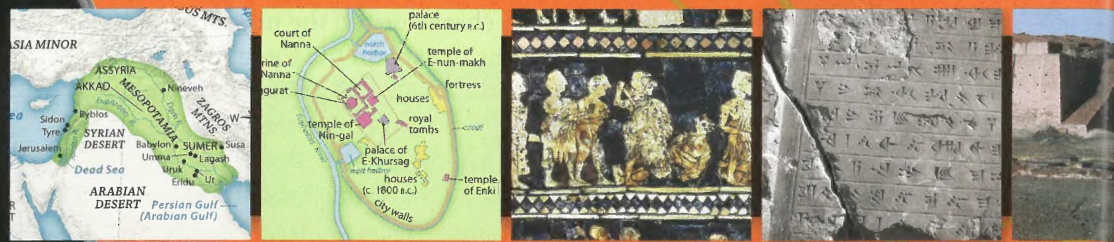
4. **Constructing a Thesis** How would you define *civilization*?

Writing Activity

5. **NARRATIVE** In a single, well-developed paragraph, express your thoughts and feelings on what life would have been like as one in a large group of people in a river valley civilization. You may include reflections on place, occupation, social structure, and the role of religion.

There's More Online!

- ✓ IMAGE Cuneiform Writing
- ✓ IMAGE The Standard of Ur
- ✓ IMAGE Ziggurat at Ur
- ✓ INTERACTIVE SELF-CHECK QUIZ
- ✓ MAP City of Ur, c. 2100 B.C.
- ✓ MAP Fertile Crescent, 1500–700 B.C.
- ✓ VIDEO Mesopotamia



LESSON 3

Mesopotamia

ESSENTIAL QUESTIONS

- What do archaeology and anthropology teach us about prehistoric humans?
- What is a civilization, and how does one form?

IT MATTERS BECAUSE

Mesopotamia was one area in which civilization began. The Tigris and Euphrates River valley supported agriculture and encouraged trade. Mesopotamians developed complex economic, political, and social structures. They invented a written language, built empires, and codified their laws.

The Fertile Crescent

GUIDING QUESTION What role did the physical environment play in the development of Sumerian civilization?

Fertile river valleys could support many people in permanent settlements. These farming villages grew into culture hearths, early centers of culture whose ideas and practices spread to surrounding areas. Highly organized societies then evolved in these regions.

The ancient Greeks spoke of the valley between the Tigris and Euphrates Rivers as Mesopotamia, the land “between the rivers.” Mesopotamia was at the eastern end of the Fertile Crescent, an arc of land from the Mediterranean Sea to the Persian Gulf. Rich soil and abundant crops allowed the land to sustain an early civilization.

Mesopotamia had little rain, but over the years its soil had been enriched by layers of silt—material deposited by the two rivers. In late spring, the Tigris and Euphrates often overflowed their banks and deposited their fertile silt. This flooding was unpredictable. It depended on the melting of snows in the upland mountains where the rivers began. People in the valley could not predict the timing and size of the floods. Therefore, they learned to control the flow of the rivers. By using irrigation and drainage ditches, farmers were able to grow crops regularly. An abundance of food allowed many people to live together in cities, and civilization emerged.

Mesopotamian civilization refers to the achievements of people from three general areas: Assyria, Akkad, and Sumer. The Sumerians were the creators of the first Mesopotamian civilization.

READING PROGRESS CHECK

Analyzing How did people in the Fertile Crescent adapt their environment?

City-States of Ancient Mesopotamia

GUIDING QUESTION How did religious beliefs influence the organization of Sumerian society?

By 3000 B.C., the Sumerians had established a number of independent cities in southern Mesopotamia, including Eridu, Ur, and Uruk. As the cities expanded, they gained political and economic control over the surrounding countryside. They formed **city-states**, the basic units of Sumerian civilization.

Sumerian cities were surrounded by walls. Uruk, for example, was encircled by a wall six miles (10 km) long, with defense towers located every 30 to 35 feet (9 to 10 m) along the wall. It is estimated that Uruk had a population of around 50,000 people by 2700 B.C., making it one of the largest city-states.

City dwellings, built of sun-dried bricks, included both the small houses of peasants and the larger buildings of the city officials, priests, and priestesses. Although Mesopotamia had little stone or wood for building purposes, it did have plenty of mud. Mud bricks, easily shaped by hand, were left to bake in the hot sun until they were hard enough to use for building. People in Mesopotamia were remarkably creative with mud bricks. They invented the arch and the dome, and they built some of the largest brick buildings in the world.

Religion and Rulers

In Mesopotamia, people looked to religion to answer their questions about life. To them, powerful spiritual beings—gods and goddesses—permeated all aspects of the universe. The Mesopotamians identified nearly 3,000 gods and goddesses. Their religion was **polytheistic** because of this belief in many gods. According to the beliefs of the Mesopotamians, humans were supposed to obey and serve the gods. By their nature, humans were inferior to the gods and could never be sure what the gods might do to them or for them.

The most prominent building in a Sumerian city was the temple dedicated to the chief god or goddess of the city. This temple was often built atop a massive stepped tower called a **ziggurat**. The Sumerians believed that gods and goddesses owned the cities. The people devoted much of their wealth to building temples and elaborate houses for the priests and priestesses who served the gods. The temples and related buildings served

city-state a state with political and economic control over the surrounding countryside

polytheistic believing in many gods

ziggurat a massive stepped tower on which was built a temple dedicated to the chief god or goddess of a Sumerian city

Reading HELPDESK



Academic Vocabulary

- transport
- invention

Content Vocabulary

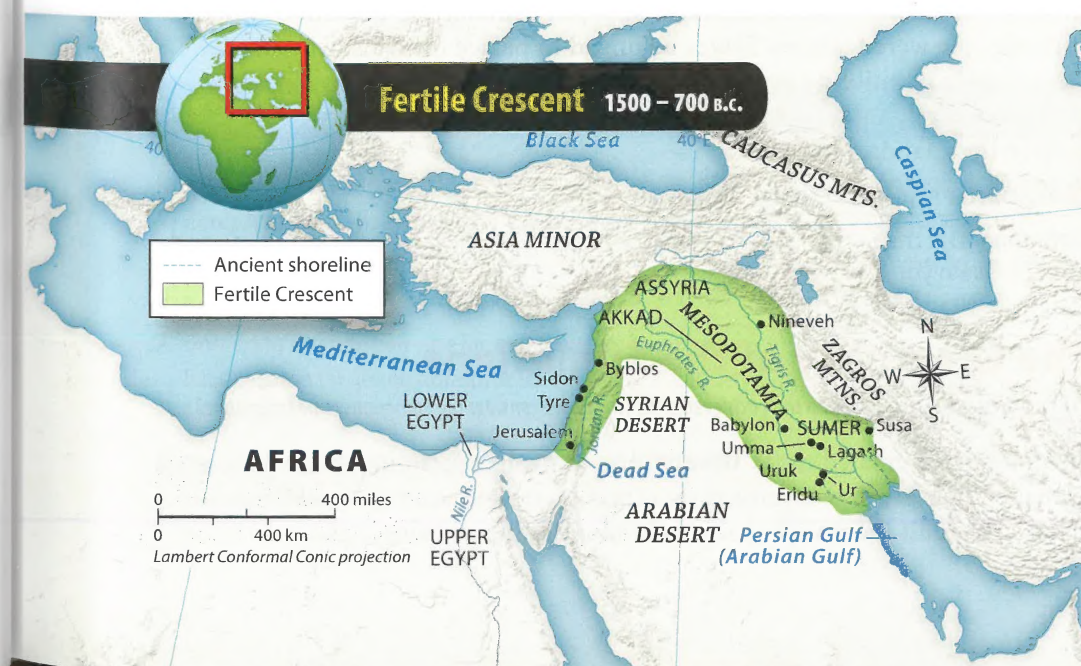
- **city-state**
- **polytheistic**
- **ziggurat**
- **theocracy**
- **cuneiform**

TAKING NOTES:

Key Ideas and Details

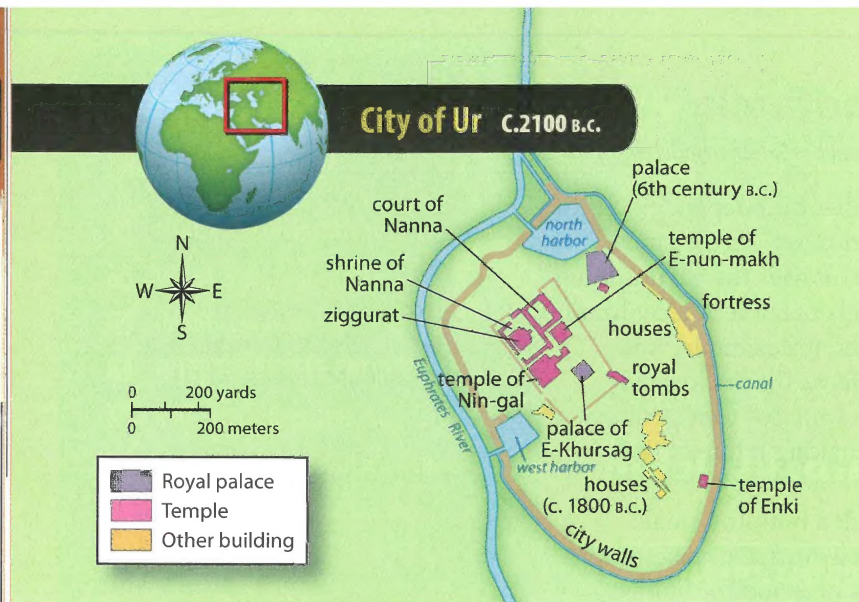
Categorizing Use a graphic organizer like the one below to record details about Mesopotamian civilization.

| Mesopotamian Civilization | |
|---------------------------|--------------|
| Location/Place | City-States |
| | |
| | |
| Society | Achievements |
| | |
| | |



GEOGRAPHY CONNECTION

- 1 **PHYSICAL SYSTEMS**
Which landforms protected the cities from invasion?
- 2 **THE USES OF GEOGRAPHY**
What rivers provided the fertile soil necessary for permanent settlements in Mesopotamia?



GEOGRAPHY CONNECTION

- 1 THE USES OF GEOGRAPHY** Based on the map, to whom do you think the ziggurat was dedicated?
- 2 ENVIRONMENT AND SOCIETY** What structures were built to manage the Euphrates River?

theocracy a government established by divine authority

transport the moving of goods or people

as the center of the city physically, economically, and even politically. The temples also served as storehouses for surplus food and crafts, which could then be distributed or traded.

The priests and priestesses who supervised the temples held a great deal of power. The Sumerians believed that the gods ruled the cities, making the state a **theocracy**—a government established by divine authority. Even when power passed into the hands of kings, Sumerians believed that these rulers derived their power from the gods and were the agents of the gods.

Regardless of their origins, kings held great power. They led armies, supervised

the building of public works, and organized workers for the irrigation projects on which farming depended. The army, the government, and the priests and priestesses all aided the kings in their rule. As befitted their power, Sumerian kings and their families lived in large palaces.

Economy and Society

Although the Sumerian city-states had a traditional economy based chiefly on farming, trade and industry became important as well. The peoples of Mesopotamia made woolen textiles and pottery, but they were particularly well known for their metalwork.

Copper, gold, and silver were already being used for jewelry and some tools. The Sumerians discovered that when tin is added to copper, it makes bronze. Bronze has a lower melting point, which makes it easier to cast than copper. Bronze is also a harder metal than copper and corrodes less.

The Sumerians bartered, or exchanged, wool, barley, dried fish, wheat, and metal goods for imported copper, tin, and timber. Sumerian traders traveled by land to the eastern Mediterranean in the west and by sea to India in the east. The invention of the wheel, around 3000 B.C., led to wheeled carts, making the **transport** of goods much easier.

Sumerian city-states contained three major social groups: nobles, commoners, and slaves. Nobles included royal and priestly officials and their families. Commoners worked for palace and temple estates and as farmers, merchants, fishers, and craftspeople. Probably 90 percent or more of the people were farmers. Slaves belonged to palace officials, who used them mostly in building projects. Temple officials most often used female slaves to weave cloth and to grind grain. Rich landowners also used slaves to farm their lands.

READING PROGRESS CHECK

Evaluating Did the Sumerians have an advanced economy relative to their time and place? Explain your answer.

The Creativity of the Sumerians

GUIDING QUESTION Based on their achievements, why do we consider the Sumerians to be innovative?

The Sumerians created many **inventions** that still affect our lives today. Probably their greatest invention was their system of writing. In addition, historians credit them with many technological innovations.

invention a new idea, method, or device

Writing and Literature

Around 3000 B.C., the Sumerians created a **cuneiform** (“wedge-shaped”) system of writing. Using a reed stylus (a tool for writing), they made wedge-shaped impressions on clay tablets, which were then baked or dried in the sun. After they dried, these tablets lasted a very long time. Several hundred thousand tablets have been found. They have been a valuable source of information for modern scholars.

Mesopotamian peoples used writing primarily for record keeping. Cuneiform texts, however, were also used in schools to train scribes, members of the learned class who served as copyists, teachers, and jurists. Men who began their careers as scribes became the leaders of their cities, temples, and armies. Scribes came to hold the most important positions in Sumerian society.

Writing was important because it allowed a society to keep records and to pass along knowledge from person to person and from generation to generation. Writing also made it possible for people to communicate ideas in new ways. This is especially evident in *The Epic of Gilgamesh*, an epic poem that records the exploits of a legendary king named Gilgamesh. Part man and part god, he befriends a hairy beast named Enkidu. Together, they set off to do great deeds. When Enkidu dies, Gilgamesh feels the pain of death and begins a search for the secret of immortality. His efforts fail, and Gilgamesh remains mortal, showing that “everlasting life” is only for the gods.

Technology

The Sumerians invented several tools and devices that made daily life easier and more productive. They developed the wagon wheel, for example, to help transport people and goods from place to place. The sundial to keep time and the arch used in construction are other examples of Sumerian technology. The Sumerians were the first to make bronze out of copper and tin, creating finely crafted metalwork. The Sumerians also made outstanding achievements in mathematics and astronomy. In math, they devised a number system based on 60. They used geometry to measure fields and to erect buildings. In astronomy, the Sumerians charted the heavenly constellations. A quick glance at your watch and its division of an hour into 60 minutes should remind you of our debt to the Sumerians.

READING PROGRESS CHECK

Hypothesizing Given what you have learned about the Sumerians, develop a hypothesis on how or why they created a system of writing.

cuneiform “wedge-shaped,” a system of writing developed by the Sumerians using a reed stylus to create wedge-shaped impressions on a clay tablet

LESSON 3 REVIEW



Reviewing Vocabulary

- 1. Paraphrasing** In your own words, explain what a ziggurat was and how it was used.

Using Your Notes

- 2. Gathering Information** Use the notes you took and other information in this lesson to describe the city-states and society of Mesopotamia.

Answering the Guiding Questions

- 3. Drawing Conclusions** What role did the physical environment play in the development of Sumerian civilization?

- 4. Analyzing** How did religious beliefs influence the organization of Sumerian society?

- 5. Gathering Information** Based on their achievements, why do scholars consider the Sumerians to be innovative?

Writing Activity

- 6. ARGUMENT** In a fully-developed paragraph, argue that *The Epic of Gilgamesh* either reflects aspects of Mesopotamian life or that it is a universal story with a universal theme.

Directions: On a separate sheet of paper, answer the questions below. Make sure you read carefully and answer all parts of the questions.

Lesson Review

Lesson 1

- 1 **MAKING INFERENCES** How do scientists determine how old organic artifacts are?
- 2 **CLASSIFYING** When and where did the earliest hominids live? How did hominids change over long periods of time?

Lesson 2

- 3 **DEFINING** What was the Neolithic Revolution? When did it occur?
- 4 **DESCRIBING** What are some basic characteristics of civilizations?

Lesson 3

- 5 **ANALYZING** How did Sumerian religious beliefs enforce a hierarchy, or ranking of people from most to least important, in society?
- 6 **DRAWING CONCLUSIONS** Name three inventions of the Sumerians. What are two reasons they were able to make more technological innovations than earlier humans?

21st Century Skills

- 7 **IDENTIFYING CAUSE AND EFFECT** Why are scientists unable to use the same kinds of evidence to learn about prehistory that they use to learn about history?
- 8 **ECONOMICS** How did trade begin in Neolithic settlements? To what else did specialization lead?
- 9 **UNDERSTANDING RELATIONSHIPS AMONG EVENTS** Why are governments an important feature of civilizations?
- 10 **GEOGRAPHY SKILLS** How did the geography of Mesopotamia contribute to the beginning of civilization?
- 11 **CREATE AND ANALYZE ARGUMENTS AND DRAW CONCLUSIONS** Why was writing one of Sumer's most significant inventions?

Need Extra Help?

| If You've Missed Question | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|---------------------------|---|---|---|----|----|----|---|----|----|----|----|----|----|----|----|
| Go to page | 5 | 6 | 9 | 12 | 16 | 17 | 4 | 11 | 12 | 14 | 17 | 6 | 6 | 4 | 4 |

Exploring the Essential Questions

- 12 **SYNTHESIZING** Work with a partner to create an illustrated time line showing the development of humans from the earliest hominids to the civilizations of Mesopotamia circa 3000 B.C. Your time line should contain visuals such as photos of scientists or their finds, sketches, and maps. You may also include primary sources.

DBQ Analyzing Historical Documents

Use the document to answer the following questions.

Mary and Louis Leakey were among the first archaeologists to search for early humans in Africa. On their 1959 field trip, they had many miles of ground to search.

PRIMARY SOURCE

“But one scrap of bone that caught and held my eye was not lying loose on the surface but projecting from beneath. It seemed to be part of a skull, including a mastoid process (the bony projection below the ear). It had a hominid look, but the bones seemed enormously thick—too thick, surely. I carefully brushed away a little of the deposit, and then I could see parts of two large teeth in place in the upper jaw. They were hominid.”

—Mary Leakey, from *Disclosing the Past*

- 13 **IDENTIFYING PERSPECTIVES** How does Mary Leakey's account of her discovery of a new hominid species differ from her son Richard's account on page 6?
- 14 **HYPOTHESIZING** Why did Leakey carefully brush away the soil instead of just removing the skull?

Extended-Response Question

- 15 **INFORMATIVE/EXPLANATORY** How do we know what we know about prehistory and history through the time when civilizations arose in Mesopotamia? Discuss the tools and methods of archaeologists and anthropologists and the types of evidence they have used to formulate their theories about our ancestors.

The Spread of Civilization

c.3100 B.C.–c.200 B.C.

ESSENTIAL QUESTIONS

- How does geography affect the development of civilizations?
- In what ways do civilizations influence each other?



networks

There's More Online! about the spread of civilization.

CHAPTER 2

Lesson 1

The Rise of Egypt

Lesson 2

Peoples in the Eastern Mediterranean

Lesson 3

The Indus Valley Civilization

Lesson 4

The Rise of China

Lesson 5

Civilizations in the Americas

The Story Matters...

First developed in the river valleys of Mesopotamia, the key elements of civilization, including cities, governments, economies, organized religion, and writing systems, also emerged in other river valleys in Egypt, India, and China. With its fertile soil and natural barriers to invasion, Egypt developed a strong civilization, exhibited in its massive cultural achievements such as the pyramids. Its rulers, known as pharaohs, were worshiped as gods.

◀ Sesotris III, one of Egypt's rulers during the Middle Kingdom, was known for his military conquests. This stone head is notable because it shows a pharaoh looking careworn and human rather than idealized and god-like.

PHOTO: The Granger Collection, NYC. All rights reserved.